J. Roark (handwritten)

#17 (handwritten)

1600

ENTERED

```
 3 <110> APPLICANT: Yoshinaga, Steven K.
 4        Mak, Tak Wah
 5        Shahinian, Arda
 6        Trafuri Bladt, Anna
 7        Senaldi, Giorgio
 9 <120> TITLE OF INVENTION: Novel Polypeptides Involved in Immune Response
11 <130> FILE REFERENCE: 6843.0050-02
13 <140> CURRENT APPLICATION NUMBER: 09/728,420C
14 <141> CURRENT FILING DATE: 2000-11-28
16 <150> PRIOR APPLICATION NUMBER: PCT/US00/01871
17 <151> PRIOR FILING DATE: 2000-01-27
19 <150> PRIOR APPLICATION NUMBER: US 09/264,527
20 <151> PRIOR FILING DATE: 1999-03-08
22 <150> PRIOR APPLICATION NUMBER: US 09/244,448
23 <151> PRIOR FILING DATE: 1999-02-03
25 <160> NUMBER OF SEQ ID NOS: 39
27 <170> SOFTWARE: PatentIn version 3.1
29 <210> SEQ ID NO: 1
30 <211> LENGTH: 600
31 <212> TYPE: DNA
32 <213> ORGANISM: Mus musculus
34 <220> FEATURE:
35 <221> NAME/KEY: CDS
36 <222> LOCATION: (1)..(600)
37 <223> OTHER INFORMATION:
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41 Met Lys Pro Tyr Phe Cys Arg Val Phe Val Phe Cys Phe Leu Ile Arg
42 1               5                   10                  15
44 ctt tta aca gga gaa atc aat ggc tcg gcc gat cat agg atg ttt tca      96
45 Leu Leu Thr Gly Glu Ile Asn Gly Ser Ala Asp His Arg Met Phe Ser
46                 20                  25                  30
48 ttt cac aat gga ggt gta cag att tct tgt aaa tac cct gag act gtc      144
49 Phe His Asn Gly Gly Val Gln Ile Ser Cys Lys Tyr Pro Glu Thr Val
50             35                  40                  45
52 cag cag tta aaa atg cga ttg ttc aga gag aga gaa gtc ctc tgc gaa      192
53 Gln Gln Leu Lys Met Arg Leu Phe Arg Glu Arg Glu Val Leu Cys Glu
54         50                  55                  60
56 ctc acc aag acc aag gga agc gga aat gcg gtg tcc atc aag aat cca      240
57 Leu Thr Lys Thr Lys Gly Ser Gly Asn Ala Val Ser Ile Lys Asn Pro
58 65                  70                  75                  80
60 atg ctc tgt cta tat cat ctg tca aac aac agc gtc tct ttt ttc cta      288
61 Met Leu Cys Leu Tyr His Leu Ser Asn Asn Ser Val Ser Phe Phe Leu
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RAW SEQUENCE LISTING   DATE: 10/22/2002
PATENT APPLICATION: US/09/728,420C   TIME: 12:35:26

Input Set : A:\09.264.527.txt
Output Set: N:\CRF4\10222002\I728420C.raw

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62                    85   ·              90                   95
64  aac aac cca gac agc tcc cag gga agc tat tac ttc tgc agc ctg tcc       336
65  Asn Asn Pro Asp Ser Ser Gln Gly Ser Tyr Tyr Phe Cys Ser Leu Ser
66              100             105                 110
68  att ttt gac cca cct cct ttt caa gaa agg aac ctt agt gga gga tat       384
69  Ile Phe Asp Pro Pro Pro Phe Gln Glu Arg Asn Leu Ser Gly Gly Tyr
70              115             120                 125
72  ttg cat att tat gaa tcc cag ctc tgc tgc cag ctg aag ctc tgg cta       432
73  Leu His Ile Tyr Glu Ser Gln Leu Cys Cys Gln Leu Lys Leu Trp Leu
74          130             135                 140
76  ccc gta ggg tgt gca gct ttc gtt gtg gta ctc ctt ttt gga tgc ata       480
77  Pro Val Gly Cys Ala Ala Phe Val Val Val Leu Leu Phe Gly Cys Ile
78  145                 150                 155                 160
80  ctt atc atc tgg ttt tca aaa aag aaa tac gga tcc agt gtg cat gac       528
81  Leu Ile Ile Trp Phe Ser Lys Lys Lys Tyr Gly Ser Ser Val His Asp
82                  165                 170                 175
84  cct aat agt gaa tac atg ttc atg gcg gca gtc aac aca aac aaa aag       576
85  Pro Asn Ser Glu Tyr Met Phe Met Ala Ala Val Asn Thr Asn Lys Lys
86              180                 185                 190
88  tct aga ctt gca ggt gtg acc tca                                       600
89  Ser Arg Leu Ala Gly Val Thr Ser
90              195                 200
93  <210> SEQ ID NO: 2
94  <211> LENGTH: 200
95  <212> TYPE: PRT
96  <213> ORGANISM: Mus musculus
98  <400> SEQUENCE: 2
100 Met Lys Pro Tyr Phe Cys Arg Val Phe Val Phe Cys Phe Leu Ile Arg
101 1                 5                  10                  15
104 Leu Leu Thr Gly Glu Ile Asn Gly Ser Ala Asp His Arg Met Phe Ser
105             20                  25                  30
108 Phe His Asn Gly Gly Val Gln Ile Ser Cys Lys Tyr Pro Glu Thr Val
109         35                  40                  45
112 Gln Gln Leu Lys Met Arg Leu Phe Arg Glu Arg Glu Val Leu Cys Glu
113     50                  55                  60
116 Leu Thr Lys Thr Lys Gly Ser Gly Asn Ala Val Ser Ile Lys Asn Pro
117 65                  70                  75                  80
120 Met Leu Cys Leu Tyr His Leu Ser Asn Asn Ser Val Ser Phe Phe Leu
121             85                  90                  95
124 Asn Asn Pro Asp Ser Ser Gln Gly Ser Tyr Tyr Phe Cys Ser Leu Ser
125             100                 105                 110
128 Ile Phe Asp Pro Pro Pro Phe Gln Glu Arg Asn Leu Ser Gly Gly Tyr
129         115                 120                 125
132 Leu His Ile Tyr Glu Ser Gln Leu Cys Cys Gln Leu Lys Leu Trp Leu
133     130                 135                 140
136 Pro Val Gly Cys Ala Ala Phe Val Val Val Leu Leu Phe Gly Cys Ile
137 145                 150                 155                 160
140 Leu Ile Ile Trp Phe Ser Lys Lys Lys Tyr Gly Ser Ser Val His Asp
141             165                 170                 175
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RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/728,420C

DATE: 10/22/2002
TIME: 12:35:26

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Output Set: N:\CRF4\10222002\I728420C.raw

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145             180                 185                 190
148 Ser Arg Leu Ala Gly Val Thr Ser
149         195                 200
152 <210> SEQ ID NO: 3
153 <211> LENGTH: 200
154 <212> TYPE: PRT
155 <213> ORGANISM: Mus musculus
157 <400> SEQUENCE: 3
159 Met Lys Pro Tyr Phe Cys Arg Val Phe Val Phe Cys Phe Leu Ile Arg
160 1               5                   10                  15
163 Leu Leu Thr Gly Glu Ile Asn Gly Ser Ala Asp His Arg Met Phe Ser
164             20                  25                  30
167 Phe His Asn Gly Gly Val Gln Ile Ser Cys Lys Tyr Pro Glu Thr Val
168             35                  40                  45
171 Gln Gln Leu Lys Met Arg Leu Phe Arg Glu Arg Glu Val Leu Cys Glu
172         50                  55                  60
175 Leu Thr Lys Thr Lys Gly Ser Gly Asn Ala Val Ser Ile Lys Asn Pro
176 65                  70                  75                  80
179 Met Leu Cys Leu Tyr His Leu Ser Asn Asn Ser Val Ser Phe Phe Leu
180             85                  90                  95
183 Asn Asn Pro Asp Ser Ser Gln Gly Ser Tyr Tyr Phe Cys Ser Leu Ser
184             100                 105                 110
187 Ile Phe Asp Pro Pro Pro Phe Gln Glu Arg Asn Leu Ser Gly Gly Tyr
188         115                 120                 125
191 Leu His Ile Tyr Glu Ser Gln Leu Cys Cys Gln Leu Lys Leu Trp Leu
192     130                 135                 140
195 Pro Val Gly Cys Ala Ala Phe Val Val Val Leu Leu Phe Gly Cys Ile
196 145                 150                 155                 160
199 Leu Ile Ile Trp Phe Ser Lys Lys Lys Tyr Gly Ser Ser Val His Asp
200             165                 170                 175
203 Pro Asn Ser Glu Tyr Met Phe Met Ala Ala Val Asn Thr Asn Lys Lys
204             180                 185                 190
207 Ser Arg Leu Ala Gly Val Thr Ser
208         195                 200
211 <210> SEQ ID NO: 4
212 <211> LENGTH: 218
213 <212> TYPE: PRT
214 <213> ORGANISM: Mus musculus
216 <400> SEQUENCE: 4
218 Met Thr Leu Arg Leu Leu Phe Leu Ala Leu Asn Phe Phe Ser Val Gln
219 1               5                   10                  15
222 Val Thr Glu Asn Lys Ile Leu Val Lys Gln Ser Pro Leu Leu Val Val
223             20                  25                  30
226 Asp Ser Asn Glu Val Ser Leu Ser Cys Arg Tyr Ser Tyr Asn Leu Leu
227             35                  40                  45
230 Ala Lys Glu Phe Arg Ala Ser Leu Tyr Lys Gly Val Asn Ser Asp Val
231     50                  55                  60
234 Glu Val Cys Val Gly Asn Gly Asn Phe Thr Tyr Gln Pro Gln Phe Arg
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RAW SEQUENCE LISTING   DATE: 10/22/2002
PATENT APPLICATION: US/09/728,420C   TIME: 12:35:26

Input Set : A:\09.264.527.txt
Output Set: N:\CRF4\10222002\I728420C.raw

```
235 65                      70              75                  80
238 Ser Asn Ala Glu Phe Asn Cys Asp Gly Asp Phe Asp Asn Glu Thr Val
239                 85              90                  95
242 Thr Phe Arg Leu Trp Asn Leu His Val Asn His Thr Asp Ile Tyr Phe
243             100             105                 110
246 Cys Lys Ile Glu Phe Met Tyr Pro Pro Pro Tyr Leu Asp Asn Glu Arg
247         115                 120                 125
250 Ser Asn Gly Thr Ile Ile His Ile Lys Glu Lys His Leu Cys His Thr
251     130             135                 140
254 Gln Ser Ser Pro Lys Leu Phe Trp Ala Leu Val Val Val Ala Gly Val
255 145             150                 155                 160
258 Leu Phe Cys Tyr Gly Leu Leu Val Thr Val Ala Leu Cys Val Ile Trp
259             165                 170                 175
262 Thr Asn Ser Arg Arg Asn Arg Leu Leu Gln Val Thr Thr Met Asn Met
263             180                 185                 190
266 Thr Pro Arg Arg Pro Gly Leu Thr Arg Lys Pro Tyr Gln Pro Tyr Ala
267         195                 200                 205
270 Pro Ala Arg Asp Phe Ala Ala Tyr Arg Pro
271     210                 215
274 <210> SEQ ID NO: 5
275 <211> LENGTH: 44
276 <212> TYPE: PRT
277 <213> ORGANISM: Artificial sequence
279 <220> FEATURE:
280 <223> OTHER INFORMATION: Synthetic
282 <400> SEQUENCE: 5
284 Met Arg Leu Leu Val Ser Cys Tyr Leu Val Cys Cys Asn Val Phe Leu
285 1               5               10                  15
288 Asn Tyr Phe Cys Pro Pro Pro Ser Gly His Ile Glu Leu Cys Lys Leu
289             20                  25                  30
292 Trp Leu Val Phe Leu Leu Leu Ile Trp Pro Arg Ala
293         35                  40
296 <210> SEQ ID NO: 6
297 <211> LENGTH: 966
298 <212> TYPE: DNA
299 <213> ORGANISM: Mus musculus
301 <220> FEATURE:
302 <221> NAME/KEY: CDS
303 <222> LOCATION: (1)..(966)
304 <223> OTHER INFORMATION:
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W--> 306 <400> 6
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308 Met Gln Leu Lys Cys Pro Cys Phe Val Ser Leu Gly Thr Arg Gln Pro
309 1               5               10                  15
311 gtt tgg aag aag ctc cat gtt tct agc ggg ttc ttt tct ggt ctt ggt     96
312 Val Trp Lys Lys Leu His Val Ser Ser Gly Phe Phe Ser Gly Leu Gly
313             20                  25                  30
315 ctg ttc ttg ctg ctg ttg agc agc ctc tgt gct gcc tct gca gag act    144
316 Leu Phe Leu Leu Leu Leu Ser Ser Leu Cys Ala Ala Ser Ala Glu Thr
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317           35                    40                    45
319 gaa gtc ggt gca atg gtg ggc agc aat gtg gtg ctc agc tgc att gac        192
320 Glu Val Gly Ala Met Val Gly Ser Asn Val Val Leu Ser Cys Ile Asp
321      50                   55                   60
323 ccc cac aga cgc cat ttc aac ttg agt ggt ctg tat gtc tat tgg caa        240
324 Pro His Arg Arg His Phe Asn Leu Ser Gly Leu Tyr Val Tyr Trp Gln
325 65                   70                   75                   80
327 atc gaa aac cca gaa gtt tcg gtg act tac tac ctg cct tac aag tct        288
328 Ile Glu Asn Pro Glu Val Ser Val Thr Tyr Tyr Leu Pro Tyr Lys Ser
329                85                   90                   95
331 cca ggg atc aat gtg gac agt tcc tac aag aac agg ggc cat ctg tcc        336
332 Pro Gly Ile Asn Val Asp Ser Ser Tyr Lys Asn Arg Gly His Leu Ser
333                100                  105                  110
335 ctg gac tcc atg aag cag ggt aac ttc tct ctg tac ctg aag aat gtc        384
336 Leu Asp Ser Met Lys Gln Gly Asn Phe Ser Leu Tyr Leu Lys Asn Val
337           115                  120                  125
339 acc cct cag gat acc cag gag ttc aca tgc cgg gta ttt atg aat aca        432
340 Thr Pro Gln Asp Thr Gln Glu Phe Thr Cys Arg Val Phe Met Asn Thr
341      130                  135                  140
343 gcc aca gag tta gtc aag atc ttg gaa gag gtg gtc agg ctg cgt gtg        480
344 Ala Thr Glu Leu Val Lys Ile Leu Glu Glu Val Val Arg Leu Arg Val
345 145                  150                  155                  160
347 gca gca aac ttc agt aca cct gtc atc agc acc tct gat agc tcc aac        528
348 Ala Ala Asn Phe Ser Thr Pro Val Ile Ser Thr Ser Asp Ser Ser Asn
349                165                  170                  175
351 ccg ggc cag gaa cgt acc tac acc tgc atg tcc aag aat ggc tac cca        576
352 Pro Gly Gln Glu Arg Thr Tyr Thr Cys Met Ser Lys Asn Gly Tyr Pro
353                180                  185                  190
355 gag ccc aac ctg tat tgg atc aac aca acg gac aat agc cta ata gac        624
356 Glu Pro Asn Leu Tyr Trp Ile Asn Thr Thr Asp Asn Ser Leu Ile Asp
357           195                  200                  205
359 acg gct ctg cag aat aac act gtc tac ttg aac aag ttg ggc ctg tat        672
360 Thr Ala Leu Gln Asn Asn Thr Val Tyr Leu Asn Lys Leu Gly Leu Tyr
361      210                  215                  220
363 gat gta atc agc aca tta agg ctc cct tgg aca tct cgt ggg gat gtt        720
364 Asp Val Ile Ser Thr Leu Arg Leu Pro Trp Thr Ser Arg Gly Asp Val
365 225                  230                  235                  240
367 ctg tgc tgc gta gag aat gtg gct ctc cac cag aac atc act agc att        768
368 Leu Cys Cys Val Glu Asn Val Ala Leu His Gln Asn Ile Thr Ser Ile
369                245                  250                  255
371 agc cag gca gaa agt ttc act gga aat aac aca aag aac cca cag gaa        816
372 Ser Gln Ala Glu Ser Phe Thr Gly Asn Asn Thr Lys Asn Pro Gln Glu
373           260                  265                  270
375 acc cac aat aat gag tta aaa gtc ctt gtc ccc gtc ctt gct gta ctg        864
376 Thr His Asn Asn Glu Leu Lys Val Leu Val Pro Val Leu Ala Val Leu
377      275                  280                  285
379 gcg gca gcg gca ttc gtt tcc ttc atc ata tac aga cgc acg cgt ccc        912
380 Ala Ala Ala Ala Phe Val Ser Phe Ile Ile Tyr Arg Arg Thr Arg Pro
381      290                  295                  300
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RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 10/22/2002
PATENT APPLICATION: US/09/728,420C   TIME: 12:35:27

Input Set : A:\09.264.527.txt
Output Set: N:\CRF4\10222002\I728420C.raw

Invalid <213> Response:
Use of "Artificial" only as "<213> Organism" response is incomplete,
per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:36,37,38,39

VERIFICATION SUMMARY
PATENT APPLICATION: US/09/728,420C

DATE: 10/22/2002
TIME: 12:35:27

Input Set : **A:\09.264.527.txt**
Output Set: **N:\CRF4\10222002\I728420C.raw**

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L:39 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:1,Line#:37
L:306 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:6,Line#:304
L:701 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:11,Line#:699
L:1065 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:16,Line#:1058
L:1065 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:16,Line#:1063
L:1468 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:21
L:1477 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:21,Line#:1470
L:1477 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:21,Line#:1475
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